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DT12 Rec'd CT/PTO

10/521155

13 JAN 2005



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June 21, 2004

European Patent Application No.: PCT/IB02/02782

Applicant: Nokia Corporation

Our ref: WO 33729

(Frist: 21.6. Eing.)

In response to the Written Opinion dated March 22, 2004.

Attached are submitted amended claims 1 to 41 which are to form the basis of the further preliminary examination proceedings.

New independent method claim 1 is based on original claims 3 and 6.

Attached independent system claim 20 is based on original system claim 25 wherein a feature similar to original claim 6 has been added.

New claims 2 to 19, and 21 to 38 correspond to original claims 4, 5, 7 to 22, and 26 to 43.

An additional independent device claim 39 has been added which is directed to the control function which is adapted to check the requirements of the message or message set or session, and to decide based on the check result on the routing of the message or message set or session setup

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Kto. 3939 844
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Kto. 6704 3804
Kto. 810 423 3007
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request. Device claims 40, 41 specify the control function to be a S-CSCF or BGCF. These added claims specify, in independent form, the devices and functions claimed for example in original claims 31, 32.

According to new method claim 1, requirements of the message(s) or of the session are checked. Based on the check result, the routing or release will be determined.

The claimed subject-matter is novel and based on inventive step. No patentability objections had been raised, in the pending Written Opinion, against the subject-matter of claim 6 which is now included into new independent method claim 1. This is taken as a sign of confirmation of patentability.

Document D1, WO 99/11087, discloses a system and method for processing calls in a case where a subscriber number can be ported from a first communication network of a first operator to a second communication network of a second operator. In each communication network, a database of ported numbers is formed which can be accessed from a gateway exchange. When a call arrives at a network, the called subscriber number is compared with the subscriber numbers in the database. Based on the comparison result, the routing information for the call is formed.

In D1, there is neither a requirements check for deciding on the routing, nor is a release of a session based on the check result provided.

Hence, this reference does neither disclose nor render obvious the claimed subject-matter.

Document D2, WO 02/43405, is directed to a method and system for routing of calls in a communication system. The communication system comprises communication subsystems which are able to handle calls for roaming subscribers. When a call is initiated, its destination is checked, and a call control entity provided for roaming subscribers is supplied with information concerning an interface entity in case the call is to be routed via another of the subsystems.

This reference D2 likewise does neither show nor render obvious the claimed subject-matter. Document D3 has merely been cited as disclosing state of the art.

The above explanations support patentability of the other independent claims as well, in particular when noting that only original claims 1 to 5, 10, and 23 to 28 were objected to.

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Patentanwalt
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Enclosure:

- Amended claims 1 to 41

Enclosure of June 21, 2004

PCT-Application No.: PCT/IB02/02782

Applicant: Nokia Corporation

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Claims 1 to 41

10 1. A method for routing a message or message set or
session setup request from a first network to a second
network, the message or message set or session set up
request comprising a first type of address, comprising
steps of:

15 checking if the first type of address is transformable
to a second type of address using a first database in the
first network,

 checking requirements of message or set of messages or
session from the message or message set or session set up
20 request, and

 deciding based on the result of the requirements
checking step, on the routing of the message or message set
or session setup request,
wherein the session or message set or session set up
25 request is released based on the result of the requirement
check in the first network.

 2. A method according to claim 1, comprising a step of
deriving the address of a contact point of the second
30 network in the first network,

 wherein the message or message set or session setup
request is forwarded to the second network using the
contact point of the second network.

35 3. A method according to claim 2, wherein the deriving
step is done using a second database.

4. A method according to any of the preceding claims, wherein the message or message set or session set up request is forwarded to the contact point, the method

5 further comprising the steps of:

deriving the routing address of the session set up request or message or message set in the second network using a third database;

10 routing the session set up request or message or message set from the contact point to a further network entity based on the derived address.

5. Method according to claims 1 or 4, wherein the checked requirements include media requirements of the
15 message or set of messages or requested session.

6. Method according to claim 1 or 4, wherein the checked requirements include QoS requirements of the
20 message or set of messages or requested session.

7. Method according to any one of the preceding claims, wherein a Serving Call State Control Function (S-CSCF) performs the requirement checking step.

25 8. Method according to any one of the preceding method claims, wherein a Breakout Gateway Control Function (BGCF) performs the requirement checking step.

9. Method according to any one of the preceding
30 claims, wherein said first or second network or another network involved in routing the message or session setup request, includes a Call State Control Function (CSCF) and a Breakout Gateway Control Function (BGCF), the Call State Control Function (CSCF) and the Breakout Gateway Control
35 Function (BGCF) being adapted to utilize at least partly

different DNS databases for translating an identifier of an equipment indicated in the message or session setup request, into a routing information.

5 10. Method according to any one of the preceding claims, wherein a Control Function, preferably a Dividing Gateway Control Function (DGCF), performs the requirement checking step and takes care of routing incoming traffic from IP multimedia networks.

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11. Method according to any one of the preceding claims, wherein the second network includes a breakout element, preferably a Breakout Gateway Control Function (BGCF), and an interrogating element, preferably an
15 Interrogating Call State Control Function (I-CSCF), and an additional path is provided from the breakout element to the interrogating element for routing a message or message set or session setup request.

20 12. Method according to claim 11, wherein, when an identifier of the second network included in the message or message set or session setup request indicates a valid IMS identity, the message or message set or session setup request is routed from the breakout element to the
25 interrogating element, otherwise the message or message set or session setup request is routed to a media gateway element, preferably a Media Gateway Control Function (MGCF) .

30 13. Method according to claim 12, wherein, when the message or message set or session setup request is routed from the breakout element to the interrogating element, the breakout element is adapted to drop itself out so that the routing is a normal IMS session.

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14. A method according to any of the preceding claims wherein the contact point is an I-CSCF, BGCF or DGCF.

15. A method according to any of the preceding claims
5 wherein the first database is an ENUM DNS database and comprises IMS E.164 identities of the subscribers who have the first network as a home network.

16. Method according to claim 1, wherein the first
10 database contains E.164 identities of trusted operators.

17. Method according to any of the preceding claims wherein the first type of address is an E.164 identity and the second type of address is a routable IMS identity.
15

18. Method according to any one of the preceding claims wherein the routable IMS identity is a SIP URI or SIPS URI.

20 19. A method for routing a message, message set or a session set up request in a communication network from a first network of a first type to a second network of a second type, comprising the steps of:

initiating a message, message set or a session setup
25 request in the first network

routing the message, message set or session set up request from the first network to a media gateway element of the second network and

routing the message, message set or session set up
30 request from the media gateway element to a breakout element in the second network,
wherein the second network includes a breakout element, preferably a Breakout Gateway Control Function (BGCF), and a media gateway element, preferably a Media Gateway Control
35 Function (MGCF).

20. A system for routing a message or message set or session setup request from a first network to a second network, the message or message set or session set up request comprising a first type of address, comprising:

checking means for checking if the first type of address is transformable to a second type of address using a first database in the first network,

further checking means for checking requirements of message or set of messages or session from the message or or message set or session set up request, and

deciding means for deciding, based on the result of the further checking means, on the routing of the message or message set or session setup request,

wherein the system is adapted to release the session or message set or session set up request based on the result of the requirement check in the first network.

21. A system according to claim 20, comprising means for deriving the address of a contact point of the second network in the first network,

wherein the system is adapted to forward the message or message set or session setup request to the second network using the contact point of the second network.

22. A system according to claim 21, wherein the deriving means is adapted to access a second database.

23. A system according to any of the preceding system claims, wherein the message or message set or session set up request is forwarded to the contact point, the system further comprising:

means for deriving the routing address of the session set up request or message or message set in the second network using a third database;

means for routing the session set up request or message or message set from the contact point to a further network entity based on the derived address.

5 24. A system according to claims 20 or 23, wherein the checked requirements include media requirements of the message or set of messages or requested session.

10 25. A system according to claim 20 or 21, wherein the checked requirements include QoS requirements of the message or set of messages or requested session.

15 26. A system according to any one of the preceding system claims, comprising a serving control function, preferably a Serving Call State Control Function (S-CSCF), for performing the requirement check.

20 27. A system according to any one of the preceding system claims, comprising a Breakout Gateway Control Function (BGCF) for performing the requirement checking step.

25 28. A system according to any one of the preceding system claims, wherein said first or second network or another network involved in routing the message or session setup request, includes a Call State Control Function (CSCF) and a Breakout Gateway Control Function (BGCF), the Call State Control Function (CSCF) and the Breakout Gateway Control Function (BGCF) being adapted to utilize at least
30 partly different DNS databases for translating an identifier of an equipment indicated in the message or session setup request, into a routing information.

35 29. A system according to any one of the preceding system claims, wherein a Control Function, preferably a

Dividing Gateway Control Function (DGCF), is provided for performing the requirement check and for taking care of routing incoming traffic from IP multimedia networks.

5 30. A system according to any one of the preceding system claims, wherein the second network includes a breakout element, preferably a Breakout Gateway Control Function (BGCF), and an interrogating element, preferably an Interrogating Call State Control Function (I-CSCF), and
10 an additional path is provided from the breakout element to the interrogating element for routing a message or message set or session setup request.

15 31. A system according to claim 30, wherein, when an identifier of the second network included in the message or message set or session setup request indicates a valid IMS identity, the message or message set or session setup request is routed from the breakout element to the
20 interrogating element, otherwise the message or message set or session setup request is routed to a media gateway element, preferably a Media Gateway Control Function (MGCF).

25 32. A system according to claim 31, wherein, when the message or message set or session setup request is routed from the breakout element to the interrogating element, the breakout element is adapted to drop itself out so that the routing is a normal IMS session.

30 33. A system according to any of the preceding system claims, wherein the contact point is an I-CSCF, BGCF or DGCF.

35 34. A system according to any of the preceding system claims wherein the first database is an ENUM-DNS database

and comprises IMS E.164 identities of the subscribers who have the first network as a home network.

35. A system according to claim 20, wherein the first
5 database contains E.164 identities of trusted operators.

36. A system according to any of the preceding system
claims, wherein the first type of address is an E.164
identity and the second type of address is a routable IMS
10 identity.

37. A system according to any one of the preceding
system claims, wherein the routable IMS identity is a SIP
URI or SIPS URI.

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38. A system for routing a message, message set or a
session set up request in a communication network from a
first network of a first type to a second network of a
second type, comprising:

20 means for initiating a message, message set or a
session setup request in the first network,

means for routing the message, message set or session
set up request from the first network to a media gateway
element of the second network and

25 means for routing the message, message set or session
set up request from the media gateway element to a breakout
element in the second network,

wherein the second network includes a breakout element,
preferably a Breakout Gateway Control Function (BGCF), and
30 a media gateway element, preferably a Media Gateway Control
Function (MGCF).

39. A Control Function for use in a system as defined
in any one of the preceding system claims, which system is
35 adapted for routing a message or message set or session

setup request from a first network to a second network,
wherein the Control Function is adapted to check
requirements of the message or message set or session from
the message or message set or session set up request, and
5 to decide, based on the result of the check, on the routing
of the message or message set or session setup request.

40. Control Function according to claim 39, wherein
the Control Function is a Serving Call State Control
10 Function, S-CSCF.

41. Control Function according to claim 39, wherein
the Control Function is a Breakout Gateway Control
Function, BGCF.